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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/337,667 06/22/99 SASAKI

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MM91/0404
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EXAMINER

YUTH, H

ART UNIT

PAPER NUMBER

2861

DATE MAILED:

04/04/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

File

Office Action Summary	Applicati n No.	Applicant(s)	
	09/337,667	SASAKI ET AL.	
	Examiner	Art Unit	
	Hean Yuth	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) ____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 14) ☒ Notice of References Cited (PTO-892) 17) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 15) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 18) ☐ Notice of Informal Patent Application (PTO-152)
- 16) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 19) ☐ Other: ____.

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DETAILED ACTION

Claim Objections

1. Claim 12 objected to because of the following informalities: In line 2, " a recording apparatus". It should be " recording method " since claims 1-11 are method claims. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 10 recites the limitation "the predetermined detection area " in line 3. There is insufficient antecedent basis for this limitation in the claim. Also, does applicant refers "...detected area " to " detected thickness on a printing area of the paper"?, please explain.

The remaining dependent claim is also rejected based upon the rejected claim.

Claim Rejections - 35 USC § 103

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimura et al (US 5397763) in view of Guy et al (US 5,258,776).

In regard to:

Claim 1:

Fujimura et al disclose a method of forming an image transfer sheet including the step of :

- laying a substrate sheet (figure 6A, # 7: the substrate sheet could be a paper or plastic; column 13, lines -7).
- forming an image receiving layer on a surface of the recording paper (figure 6, #6, figure 12, # 50) ; and
- transferring the toner on a toner sheet (figure 12, # 90) onto the image receiving layer to record an image thereon in accordance with recording data (column 12, lines 34-54).

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However, Fujimura et al did not show a support for supporting the substrate such a recording drum or a transfer plate where in the image is receiving and recording.

Meanwhile, Guy et al disclose a thermal printing method by using a laser printer head (figure 1, # 34) comprising of laying a image receiving layer (figure # 12) and tone sheet (figure 1, # 14 : dye carrier member) lay on the a rotating drum (column 3, lines 24-35).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Guy et al for having the a laser printer having a recording drum for supporting the recording medium, the image receiving layer and the toner layer of Fujimura et al for the purpose of achieving the recording image.

Claim 2:

Fujimura et al further disclose that a cushion layer is formed between the surface of recording paper and the image receiving layer (column 7, lines 52-56).

Claim 3:

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Fujimura et al further disclose that the image receiving layer (figure 12, # 50) is formed by attached to the image receiving sheet having the image receiving layer on the surface of the recording paper (figure 12, # 1) and then the transferring the image receiving layer thereon.

Claim 4:

The image receiving sheet includes a cushion sheet layer therebeneath, and the image receiving layer is transferred such that the cushion layer is placed between the surface of the recording paper and the receiving layer (column 7, lines 52-56).

Claim 5:

Fujimura et al further disclose a protective layer (figure 7, # 70) is formed on an image recorded surface on the recording paper.

Claim 6:

Fujimura et al disclose most claimed features of the present invention except that the toner is thermally transferred by irradiating laser beam onto the light-heat conversion layer.

Meanwhile, Guy et al disclose a thermal printer including a printhead having a plurality of thermal devices such lasers to transferred the toner from the toner sheet to the receiving layer (figure 1, # 34: lasers, # 14:toner sheet, # 12: image receiving sheet).

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Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Guy et al for having the toner sheet of Fujimura et al exposed to the laser beam for the purpose of transferring the toner from the tone sheet to the receiving layer.

6. Claims 7-9, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimura et al in view of Guy et al as applied to claim 6 above, and further in view of Ferschl et al (US 5196866).

Fujimura et al in view of Guy et al disclose most claimed features of the present invention except the step of :

- measuring thickness of the recording paper by thickness detecting means; and
- adjusting focal point of the laser beam in accordance with the measured values of the thick ness detecting means;
- a non-contact type displacement meter is used as the thickness detecting means;
- the laser displacement meter is used as the thickness means;
- The thickness of the recording paper is measured from a position opposite to the rotating direction of the recording drum, and the focal position of the laser beam is adjusted in real time.

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Meanwhile, Ferschl et al disclose an imaging writing apparatus (figure 1, # 10) utilizing a writing element (donor and receiving element) disposed on a drum (figure 1, # 12; column 3, lines 23-28), a focusing detection system including means for detecting the variation in thickness of the donor and receiving element (figure 1, # 130: photodetector, # 62: focusing optical fibers send focusing beam onto the surface of the recording medium on the drum before a writing beam is sent by writing optical fibers (60); column 9, lines 24-28). The detected information is reflected back to the photodetector (130). The signal from the photodetector is fed into the focusing circuit which generates a signal for driving the focus lens (figure 1, # 80) for having the laser beam staying in focus with respect to the writing element (column 9, lines 40-59).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Ferschl et al for having the focus detection system incorporated into the device of Fujimura et al and Guy et al for the purpose of detecting variation in thickness of the recording medium and for keeping the writing beam (laser beam) staying in focus with respect to the recording medium.

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7. Claims 10, 12/1-12/11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimura et al in view of Guy et al, and Ferschl et al as applied to claim 7 above, and further in view of Hagyuda et al (US 4269491).

Claim 10:

Fujimura et al in view of Guys et al, and Ferschl et al disclose most claimed features of the invention except the memory means for storing the measured values of the thickness detecting means with respected to all predetermined detected area (the detected thickness of paper area to the best understanding of Examiner) so that the focal point of the laser beam is subsequently adjusted in accordance with stored value. It is well known in the art that memory means such RAM (memory circuit or chip) has been used to store detected or measured data for further processing.

Hagyuda et al, for example, disclose a distance judgement circuit for a focus detecting apparatus, having a memory circuit (figure 1, # 32) for storing measured focal distance information for further processing (column 3, lines 8-26).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Hagyuda et al for having memory means incorporated into the device of Fujimura et al and Guy et

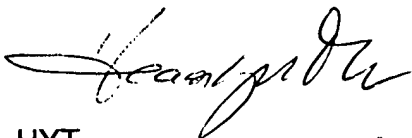
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al, Ferschl et al (focusing circuit) for the purpose of storing the detected information for subsequently adjusting the focal point of the laser beam.

Claim 12:

Fujimura et al in view of Guy et al et al, and Ferschl et al further disclose an apparatus (Guy et al: a laser printing apparatus: figure 1) for printing an image by use the of the recording method as set forth in the any one of claims 1-11.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hean Yuth whose telephone number is 703-306-5859. The examiner can normally be reached on 7:30am-4pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on 703-308-0750. The fax phone number for the organization where this application or proceeding is assigned is 703-308-5841 for regular communications and for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



HYT
March 30, 2000



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